TOBOLDT (A.L.A.)

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Ninth International Medical Congress.

A PAPER ON

IMPORTED

Carlsbad Mineral Waters

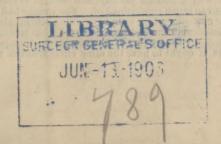
AND

SPRUDEL SALZ,

BY

A. L. A. TOBOLDT, M.D.,

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A PAPER ON

IMPORTED CARLSBAD MINERAL WATERS AND SPRUDEL SALZ.

A. L. A. TOBOLDT, M.D.

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Mr. Chairman-Gentlemen.

The famous fountain of health at Carlsbad, in Bohemia, which has been the refuge of invalids for five centuries, is certainly well worthy of a careful study. Although the subject is so old that it may be doubted whether there be anything new to say about it, nevertheless my experience with this remedial agent has been such that I may truly say that no remedy which I have ever employed has given

me so much pleasure and profit as this particular one.

My opinion as to mineral waters generally, and Carlsbad in particular, which is probably shared by the majority of the profession, has been that much if not all the therapeutic action may be traced to change of scene, to the strict diet enforced, to outdoor exercise, and the large quantities of water drank. Starting with this opinion, I undertook a series of experiments with Carlsbad waters, such as is exported by the authorities of the City of Carlsbad. Selecting a number of chronic hypochondriacs, whose afflictions had baffled all my previous efforts, as my subjects, I was truly astonished to note that, although no rigid diet was prescribed, and only a limited amount of exercise was indulged in, I obtained most remarkable results—the complexion even after a week's use began to clear up, the step became more firm and elastic, and, what was more, the entire host of hypochondrical complaints seemed to vanish like mist. These surprising results bade me pause, and I then set about investigating the subject more closely, arguing that it certainly could not be the water alone that produced these effects. The diet and exercise having been left entirely out of consideration in several of the cases, I proceeded to use the Crystallized Sprudel Salz, which, being obtained by evaporating the waters, I thought must surely be the remedial agent. But alas! when I came to use this, thought must surely be the remedial agent. But alas! when I came to use this, by dissolving it in ordinary water or in carbonic acid water, I invariably failed to get so prompt an action, and in the majority of cases utterly failed to get that peculiar therapeutic effect which I had obtained from the exported mineral waters themselves. There was something at fault with either my argument or the Sprudel Salz. On looking up the subject I found that at Carlsbad the salt was only recommended and used as an addition to the mineral waters, to act as a purgative when the waters failed in that respect. The analysis of the salt I found did not tally with that of the mineral waters, so for a time at least I fell back on the use of the exported Carlsbad waters until my attention was called to experithe use of the exported Carlsbad waters until my attention was called to experiments made by Dr. Jaworski, of Krakow, with "Sprudel Salz Powder." I then determined to give this a trial, still convinced that it was not the water but its contained salts that produced the therapeutic effect. The chemical analysis of the Sprudel Salz Powder certainly more nearly corresponded to that of the mineral waters, and upon trial I found that I could obtain the same effect with the Sprudel Salz Powder. The first case upon which I tried it was so unique that I was literally dumbfounded at the result. A woman who five years before had weighed but rally dumbfounded at the result. A woman who five years before had weighed but 75 pounds had in that time increased in weight to 190 pounds—a gain of 115 pounds. She came to me for treatment, laboring under all the symptoms that would naturally be expected from such an enormous increase in weight. I put her first upon the Crystallized Sprudel Salz, only to be disappointed; when, after several weeks, I used the Sprudel Salz Powder, I was really startled to note the effect. In eight days—i.e., from Wednesday to the next Thursday—she lost 16 pounds, an average of 2 pounds per day, and was, in consequence, losing all the symptoms she had so much complained of. The woman had in the meantime been indulging in her customary diet, even to drinking several glasses of beer daily, and being a market-woman she had been debarred from taking any extra exercise. This then verified my theory that if there was any therapeutic action in Carlsbad mineral verified my theory that if there was any therapeutic action in Carlsbad mineral waters it ought to have the same effect without the usual adjuncts of a Carlsbad

cure—namely, diet and exercise. In the very next case, a mild one of diabetes mellitus, the sugar disappeared entirely after its use, the patient only abstaining from fresh fruits, and that because it caused too great a looseness of his passages. How the Sprudel Salz Powder acts in diabetes mellitus I am unable to say, and must content myself with stating facts only. I will not tire you with a recital of any more cases; I have arranged these in a tabular form attached to this paper. Sufficient, I think, has already been said to warrant calling your attention to a remedial agent that in one form at least has been known and used by the profes-

sion for the last four centuries.

The Springs of Carlsbad are located in Bohemia, and have been known to the profession ever since the fourteenth century, and have been gaining in their favor ever since. The waters, which issue from fifteen different springs, have all the same chemical composition, differing only in the amount of free CO₂ which they contain, this depending upon the temperature at which the water reaches the surface, there being a difference of 40° Reaumur between the different springs. The hotter the water the less carbonic acid it holds in solution, and vice versa. Upon analysis they are found to belong to the alkaline mineral waters, and according to the most recent analysis of Profs. E. Ludwig and J. Mauthner, 1886, they contain:

Analysis of the Carlsbad Sprudel, by Prof. E. Ludwig and Prof. J. Mauthner, 1886.

Carbonate of Iron	0.030
Carbonate of Manganese	
Carbonate of Magnesium	1.665
Carbonate of Calcium	3.214
Carbonate of Strontium	
Carbonate of Lithium	
Carbonate of Sodium.	
Sulphate of Potassium	
Sulphate of Sadium	04.059
Sulphate of Sodium	10 410
Chloride of Sodium	10.418
Fluoride of Sodium	
Borate of Sodium	0.040
Phosphate of Calcium	0.007
Oxide of Aluminium.	
Silicic Acid	
Carbonic Acid, partly combined	
Carbonic Acid, free	1.898
Cæsium, Rubidium, Thallium, Zinc, Arsenic, Antimony,	
Selenium, Formic Acid, Undeterminable organic	Traces.
matter	
Amount of solids	
Specific gravity	1.00530
Temperature in C°	73.8
a composition of the territory of the te	

Analysis of the Sprudel Salz (Powder), by Dr. Sipoecz.

Sodium Sulphate	43.25 per cent
Sodium Carbonate	36.29 "
Sodium Chloride	16.81 "
Potassium Sulphate	3.06 "
Lithium Carbonate	0.39 "
Sodium Fluoride	
Sodium Borate	
Silicic Acid Anhydride	0.03
Iron Oxide	0.01

For many years the waters were only used externally, but at present a cure at

Carlsbad chiefly consists in their internal use

The effect of the waters and of the *Sprudel Salz Powder* dissolved in carbonic acid water or ordinary water, being so near alike, may be treated of together, and be summed up as follows;

Locally upon the stomach and bowels they produce a stimulating, alterative effect, and they also act as a sedative to the gastric nerves. They neutralize the acids of the stomach, its normal acidity, according to researches of Dr. W. Jaworski, returning sooner after the use of the mineral waters than after the use of the Sprudel Salz Powder in solution. After several doses have been taken they act as a mild purgative, partly by increasing the peristaltic movements, diluting the contents of the bowels, dissolving toughened mucus, bile, and hardened fecal masses, and partly also by increasing the intestinal secretions; hence at times such copious discharges. After continued use the stools become much darker, almost black and tarry. But occasionally, for a time at least, especially when taken hot, they produce constipation. During the continuance of the treatment there is an increased development of gases in the gastro intestinal canal, which cause frequent odorless and tasteless eructations and the passing of flatus having the odor of sulphuretted hydrogen. These gases are the cause of the distentions so often complained of, giving rise to a feeling of oppression in the region of the stomach, and sometimes even cause slight gripings. In fact, according to Dr. Hlawacek, of Carlsbad, nearly all the symptoms complained of during a cure may be traced, either directly or indirectly, to this cause.

The appetite is at first increased, but later on it is generally diminished, espe-

cially for the midday meal. Occasionally a bitter, pasty taste, with loss of appe-

tite, is noticed. Thirst is usually increased.

The urine is generally increased in quantity, and, after a varying length of time, is rendered neutral or alkaline. The urea and uric acid are, according to the researches of Dr. Seegen, much diminished, whereas the phosphates are greatly increased in quantity. So-called brick-dust sediments in the urine, when

present, disappear after several days' use.

The secretions of the skin are also increased, and sometimes altered in character. The skin frequently exfoliates, causing the complexion to become much clearer, an effect very noticeable in patients having freckles. Dr. Hlawacek asserts that he has occasionally noticed an increased flow of saliva. There frequently is, also, an increase in the mucous secretions of the air passages. Aching and drawing pains are felt from time to time in the extremities, most of the joints, and in old scars, and a feeling of languor is frequently complained of. When taken hot, in addition to these symptoms there is noticed what is known at the springs as "Brunnenrausch"—the head feels confused, there is an incapacity to concentrate the thoughts on any one thing, giddiness, staggering, and other symptoms of rush of blood to the head are noticed—symptoms seldom, if ever, met with when the waters are drank cold. This is followed, however, in a few days by an increased tonicity of the entire muscular system; the patient becomes brighter, and the previous dulness gives place to a clearness of intellect, of thought, feeling, and fancy much exceeding that existing previous to the beginning of the treatment.

In females the catamenial flow is apt to be delayed and also diminished in

quantity.

Most patients lose flesh, especially those who are very corpulent, whereas thin and delicate patients who take much nourishment are apt to increase in weight.

Other effects noticed are the disappearance of old inflammatory deposits, especially in the fibrous tissues. Old rheumatic or gouty nodules I have known to disappear entirely; also inflammatory thickenings around the uterus and its appendages. Upon the system generally a marked increase of tissue metamor-

phosis is noticed. The water tastes very pleasant and is liked by most patients.

As to the diseases for which Carlsbad is recommended, they are so numerous that I will not take up your time in enumerating them. Suffice it to say that it may be used wherever an alkaline mineral water is indicated, especially where there is lack of tone in the gastro-intestinal tract, as in dyspepsia, deficient or perverted biliary secretions, jaundice, chronic constipation, etc.; where accumulations of fat, especially in the liver, other organs, or under the skin, are to be disposed of; where there is that peculiar dyscrasia known as the uric acid diathesis, as in gout, rheumatism, gravel, etc., and where inflammatory deposits, especially in the fibrous tissues, are to be removed, and in that peculiar and so little understood disease, diabetes mellitus.

Carlsbad may be said to be contraindicated in all wasting diseases, especially those of the lungs and those involving a great amount of suppuration, and in all acute febrile diseases, especially inflammatory and infectious diseases, aneurism,

atheroma of the larger vessels, etc.

As to the mode of administration: The dose of the imported mineral waters may be set down as 2 to 3 glasses of about 6 oz. each, drank slowly in the morning an hour before breakfast, another glass during the morning or afternoon, and one or two before retiring at night. The dose of the *Sprudel Salz Powder* is about one teaspoonful dissolved in a glassful of water, taken three times a day, either one hour before or two hours after meals. If taken with the Carlsbad Water, one teaspoonful of the Salt with the first tumblerful of the water, taken in the morning, will suffice. That of the Crystallized *Sprudel Salz* is from one to two spoonfuls dissolved in a glassful of water as a purgative. When taken hot the effect on the bowels is less marked.

As to diet, experiments of Dr. E. Hlawacek and others, as well as my own, prove that any diet otherwise not contraindicated by the disease may be indulged

in during the continuance of the treatment.

The effect of exercise, although not found essential, is a factor which I think ought not to be lost sight of, especially where the disease is caused by sedentary habits. Experiments made by Dr. W. Jaworski prove that exercise hastens the passage of the waters from the stomach into the intestinal canal. The experiments made by Dr. Jaworski also proved that the normal acidity of the stomach returns sooner after the ingestion of the mineral waters than after solutions of Sprudel Salz Powder; hence diseases of the stomach are generally best treated by the mineral waters, whereas the Sprudel Salz Powder is to be preferred in diseases of the other viscera, such as intestinal canal, spleen, kidneys, in adiposis, diabetes, etc., although this rule does not hold good in every case. The experiments of Dr. Jaworski with Sprudel Salz Powder as to the effect when given per rectum prove it to have much the same effect as when given per se, and may be resorted to when from any cause the stomach needs rest, or where the disease is located in the bowels, etc. The addition of Sprudel Salz Powder to clysters brings away larger quantities of fecal matter, and generally produces a greater number of passages than when water alone is used.

As to the difference between the crystallized and Sprudel Salz Powder, I would say that both are obtained by evaporating the Carlsbad Mineral Waters; but the powder is, while still moist, exposed to the carbonic acid so abundantly given off by the springs, and in consequence differs from the crystallized in containing more carbonates and less sulphates. In fact it contains all of the soluble constituents of the waters, and hence more nearly represents the Carlsbad Mineral Waters

themselves.

In addition to this the Crystallized Sprudel Salz, being hygroscopic, frequently causes inconvenience on this account. The Sprudel Salz Powder, on the contrary, occurs in a fine granular powder, and is proof against all atmospheric changes.

In conclusion, I would say that the Carlsbad Mineral Waters, as exported by the

In conclusion, I would say that the Carlsbad Mineral Waters, as exported by the City of Carlsbad, being the natural product, are of course much to be preferred where the quantity of water is no objection, particularly in diseases of the stomach. Where, from any cause, two or three glasses of water (6 oz. each) cannot be taken, then the *Sprudel Salz Powder* answers the purpose equally well, and in diseases other than of the stomach it is even to be preferred. The *Sprudel Salz* in crystals may be used in every case where a purgative action only is desired.

Furthermore, I would say that the Carlsbad Mineral Waters and Sprudel Salz do not differ in the least from any other remedial agent of well-known properties; that their effect is uniform and to be relied upon independently of any adjuncts

of treatment, such as diet, exercise, or water.

Table of Casss treated with Carlsbad Mineral Waters, Crystallized Sprudel Salz, and Sprudel Salz Powder.

	RESULT.	ured.	ured. Bowels been regular	ured.	uch	uch	ot much im- proved.	ot benefited.	ompletely	ery much im- proved.	Il trace of su- gar disap- peared after second week.	ompletely cured.	ompletely cured.	ntirely cured.	ured,
	REMARKS.	Complained of pain in right hypochondrium, soreness Cured, over apex of left lung, great depression of spirits al-	0	A	Would get better for a time, neglect to take her medi-Much cine, and then take it regular for a week or ten days.	The protracted constipation patient suffered from gene-Much analytical over a fraction of diarrhosa. Liver very much in the protraction of the content of th	Tentage of the jaundice began to disappear after third day, but re-Not much imappeared during state week of treatment. Patient dispersed and allowed from the property of the	counsiger and unscontinuou desanieri. Had some tenderness over live, and also over spleen Not benefited. which was somewhat enlarged. Took some horseback	The same man returned after six months; much the Completely same symmetries: the same symmetries seemed also somewhat encountries are specified to the same symmetries.	Take the control of t	A	weeks. Disease caused by intemperate use of whiskey, from Completely which patient did not abstain entirely during treatment. Spit up a greatemount of mucus in the morn-nent.	F	Utering faced and held down by adhesions, much inflam. Entirely cured matory thickening of appendages; patient very much	reduced; Settom tet the fourth. Never had a passage without taking some purgative Cured, medicine for the past five years. Also suffered from hemotrhoids.
A TOWN COURT A	OF TIME	6 weeks.	weeks.	6 weeks.	weeks	weeks.	weeks.	6 weeks.	weeks.	weeks.	weeks.	weeks.	4 weeks.	in 5 weeks.	weeks.
AMOUNT COMPANY	EL	None			None 8	None 5	None4		None 5	teaspoonful in 1 teaspoonful in 15 glassful of water glass of water 3 a times a dayfor 3 times daily.	I teaspoonful in 16 glass of CO ² wa- ter 3 times a day.	glass of Carlsbad	None	ter	times a may. I teaspoonful in 4 weeks. glassful of water 5 times a day.
TOWAN USWARD	EL	None	Used a teaspoonful None	None None.	teaspoonful in 1 None.	glassful of water	teaspoonful in 1 None	teaspoonful in 1 None		teaspoonful in 1 glassful of water 3 times a day for 3 weeks, then took	the Powdered Salt	None	None.	None	None
Butter Gamyagu	IMPORT'D CARLSBAD MINERAL WATERS.			d. bef. breakfast, gl. 1 hr. bef. din.,	None.	one	None.	None	3 glasses before None. breakfast, 2 at 10	None	one		breakfast, 2 at 10	one	one
And the same are now as a second party of the same and th	CASES.	1 Mr. G., æt. 48 years 3 Tailor. Confirmed ii	Hypochondriac. Mr. S., æt. 55 years. 3. Musician. Hypo- 2	3 Mr. S., æt. 47 years. 2g	4 Mrs. S., æt. 40 year. N. chronic constipa-	5 Mr. R., æt. 40 years. N. Enlargement of liv-	6 Mr. P., æt. 20 years. None. Jaundice.	7 Mr. M., æt. 35 yrs. Hypochondriac.	8 Mr. M., æt. 35 yrs.	9 Mrs. D., æt. 24 years. Market-woman. Adi- posis.	10 Mr. L., æt. 35 years. N Journalist. Diabe- tes mellitus.	11 Mr. F., æt. 40 years. None Druggist. Catarrhal inflammation of the	12 Mrs. E., æt. 35 years. 3 Merchant. Dyspep-	13 Mrs. G., at. 26 years. N. Chronic pelvic cellu-	14 Mrs. L., æt. 24 years. N. Housekeeper. Chron-ic constipation.

Inflar thic	ared.				for	
Cured. Cured. Cured. Cured. Inflar matory thic eningsentire	asappeared Cured. Cured.	Cured.	Cured.	Cured.	Cured time.	Cured.
weeks. Little patient unable to take any food besides mother's Cured. In this, which was also vomited occasionally; much diarrhee and emaciation. Began to improve second day. There and emaciation. Began to improve second day. There are the from that time, also suffered from pochondrium from that time, also suffered from pochonic gets that had baffied all previous treatment. Bowe's moved but once or twice a week and then generally had to resort to some purgative. Also complained of hemorrhoids. Weeks, Patient suffered more from inflammatory deposits of former attacks than from present attack of rheumanaphy deposits of theumanaphy and to resort to sum the affected joints.	g micturition; passed a number of large as a pin's head; occasionally arer for twenty-four hours. us attacks that lasted three months, in the same as others, with a diarrhoea eeks. Improved after first week.	after third day. Patient had several chills during time of treatment, al-cured, though not exposed to malaria. Had not had one for two years previously. Patient suffered much from pain and frequently vomited Cured, blood. Began to improve after second week.	4 weeks. Had never had a natural passage for the past three Cured. Years—Since her last confinement, Patient had freekles, which disappeared entirely with the excolation of the skin. 4 weeks. I had endeavored by the use of digitalis and squills as Cured diureties, and elaterium and other purgatives, to remove the dropsy, but singularly failed. After using the salt for two days patient began to pass a very great	amount of water by the bowels and kidneys. The nodules had become very paintin, so as to confine the patient to his room. Improvement began after third week. This was a typical case of simple dilatation of stomach. Cured. There were also a few dyspeptic symptoms and constitution.	Never had anything but cow's mink, and rot the past two Cured, months zwieback had been added to his diet. Patient much emaciated—thirteen stools a day. Improvement after second day. Whiskey the cause of the disease. Patient stopped for Cured one week, then resumed his former habits; took eight time, or ten drinks a day. Kept comparatively well for two months.	6 weeks. The spleen was enormous, reaching down to the brim of Cured the pelvis and much beyond the median line. Probably caused by malaria.
weeks. I weeks. I weeks. I	weeks.	weeks.	weeks.		weeks.	eeks.
4 10 4 10	70 4 80 R R R	9 9		6 70 A	4 9 K	
sgrains in 2 table-4 spootbuls of wa- ter 3 times a day teaspoorful in 15 glass of water 3 times a day. I teaspoorful in 14 glass of water 3 times a day. I teaspoorful in 16 glass of water 3 times a day.	teaspoonful in 15 teaspoonful in 14 teaspoonful in 14 teaspoonful in 14 teaspoonful in 15 times a day.	in water ter die. I teaspoonful in 1 glass of water 3 times a day. teaspoonful in 1 glass of water 8 fimes a day.	glass of water 3 times a day. teaspoonful in 1 glass of water 8 glass of water 8 times a day.	teaspoonful in 16 weeks. glass of water 3 times a day. teaspoonful in 15 weeks, glass of water 3 times a day.	s grains in not wa-4 ter 3 times a day. teaspoonful in 16 glass of water 3 times a day	glass of water 3 times a day.
None None None None None None None None	None,	None	None	None	Мове	None
NoneNone	None	None	None			
15 C., set. 19 months. Ma- Irasmus. 16 Mr. M., set. 35 years. I. Laborer. Enlarged liver. To wat. 45 years. In Mr. M., set. 45 years. Isonomic constipation. 18 Miss J., set. 13 years. I. Chronic chronic remains Jeans. I. Stemmatism; joints enlarged.	19 Mr. S., æt. 30 years. None Gravel. 20 Mr. F., æt 28 years. None Clerk. Jaundice. 21 R., æt. 24 years. Jaun-None	dice. 22 Mr. R., ett. 30 years. None Farmer. Ague cake. 28 Mr. L., æt. 36 years. None Merchant. Ulcer of	ot. 30 years. eper. onstipation. st. 20 years. from valvudisease.	26 Mr. B., æt. 23 years. Clerk. Gouty nod- ules on feet. 27 Mr. L., æt. 85 years. Police officer. Dila- tation of stomach.	28 B., 81. 1 year. Maras- None mus. 29 Mr. B., æt. 52 years. None Barber Catarrhalin- flammation of stom- ach.	30/Mr. J., æt. [40 years, None Sailor, Enlarged spleen.

ckck-

In none of the above cases was there any particular diet prescribed. The patients were allowed to choose for themselves, and to eat whatever their appetites

Only in one case (No. 7) a hypochondriac took riding lessons for one week, and then abandoned them entirely until two weeks after the treatment, when, as he expressed it, he had more heart to go about amongst people and enjoy himself. The other cases took very little if any exercise outside of that required by their respective callings.

As to the matter of taking the Carlsbad Waters or Sprudel Salz solutions, hot or cold, I would say that most patients preferred taking them cold, and as there appears to be the advantage that taken cold there are no so-called head symptoms, and a more decided purgative action, I have invariably given cold the preference, only using them hot in cases of diarrhea, when I did not desire the purgative

The foregoing would then prove conclusively that the Carlsbad Waters, as well as the Sprudel Salz Powder, are bona fide remedial agents independent of the usual adjuncts of treatment. But I would not here be understood as making light of or ignoring them; their value has been proven many years ago, and who has not himself seen the benefits of copious draughts of water, well-directed exercise, change of scene, etc.? If these can be had in addition, well and good; if not, a

Carlsbad treatment need not therefore be dispensed with.

In conclusion, I would say that the experiments were made with genuine imported Carlsbad Water and Sprudel Salt, which is bottled under the supervision of the City of Carlsbad, and has the signature of Eisner & Mendelsohn Co., sole agents for the U. S., and Loebel Schottlander, sole licensee of the Spring, with the seal of the City of Carlsbad on the neck of every bottle. It would be folly to expect any reliable action from any of the numerous imitations sold here in bulk or

A L. A. TOBOLDT, M.D.,

PHILADELPHIA, PA.

EISNER & MENDELSON CO.

152 and 154 Franklin St.,

NEW YORK.

Sole Agents for the

Products of the Carlsbad Springs.